APPENDIX B1 - CLEAN COPY OF PENDING CLAIMS (UNOFFICIAL)

1. A transgenic mouse, the cells of which comprise at least one endogenous LXRα allele that cannot express LXRα sufficient to provide the capacity to respond to dietary cholesterol.

2. The transgenic mouse of claim 1, wherein said cells comprise two endogenous LXRα alleles that cannot express LXRα sufficient to provide the capacity to respond to dietary cholesterol.

4. The transgenic mouse of claim 1, wherein a transcript produced from said endogenous LXRα allele contains an interruption in the LXRα coding sequence.

5. The transgenic mouse of claim 2, wherein a transcript produced from said endogenous LXRα alleles both contain an interruption in the LXRα coding sequences.

6. The transgenic mouse of claim 1, wherein said endogenous LXRα allele contains a nonsense mutation that truncates the corresponding encoded LXRα polypeptide.

7. The transgenic mouse of claim 2, wherein said endogenous LXRα alleles both contain a nonsense mutation that truncates the corresponding encoded LXRα polypeptide.

8. The transgenic mouse of claim 1, wherein said endogenous LXRα allele contains a deletion of LXRα coding sequences.

9. The transgenic mouse of claim 2, wherein said endogenous LXRα alleles both contain a deletion of LXRα coding sequences.

10. The transgenic mouse of claim 1, wherein said endogenous LXRα allele contains a mutation in the 5' regulatory region of the LXRα gene.

11. The transgenic mouse of claim 2, wherein said endogenous LXRα alleles both contain a mutation in the 5' regulatory region of the LXRαs.

12. The transgenic mouse of claim 10, wherein said alteration comprises substitution of an inducible/repressable promoter for the endogenous LXRα promoter.

13. The transgenic mouse of claim 11, wherein said alterations comprise substitution of inducible/repressable promoters for both of the endogenous LXRα promoters.

14. The transgenic mouse of claim 1, wherein cells of said mammal further comprise an exogenous selectable marker gene under the control of a promoter active in at least one cell type of said mammal.

21. A method for screening a candidate substance for the ability to reduce cholesterol levels in a mammal comprising:

(a) providing a transgenic mouse, the cells of which comprise at least one endogenous LXRα allele that cannot express LXRα sufficient to provide the capacity to respond to dietary cholesterol;
(b) treating said mouse with said candidate substance; and
(c) monitoring a cholesterol-related phenotype in said mouse,

wherein a reduction in said cholesterol-related phenotype in said mouse treated with said candidate substance, as compared to a similar mouse not treated with said candidate substance, indicates that said candidate substance reduces cholesterol levels.

23. The method of claim 21, wherein said phenotype is cholesterol absorption, circulating cholesterol, hepatic cholesterol, hepatomegaly, atherosclerosis, cardiac failure, cardiac (atrophy/hypertrophy), activity level, survival, cancer, reproduction, immune function, skin disease, cognitive function, and adrenal function.

24. The method of claim 21, wherein said mouse is maintained on a high cholesterol diet.

25. The method of claim 21, wherein said mouse further is treated with an agent that blocks cholesterol biosynthesis.

26. The method of claim 21, wherein said cells comprise two endogenous LXRα alleles that cannot express LXRα sufficient to provide the capacity to respond to dietary cholesterol.

27. A method for screening a candidate substance for the ability to increase bile acid synthesis in a mammal comprising:

(a) providing a transgenic mouse, the cells of which comprise at least one endogenous LXRα allele that cannot express LXRα sufficient to provide the capacity to respond to dietary cholesterol;
(b) treating said mouse with said candidate substance; and
(c) monitoring a bile acid-related phenotype in said mouse,

wherein an increase in said bile acid-related phenotype in said mouse treated with said candidate substance, as compared to a similar mouse not treated with said candidate substance, indicates that said candidate substance increases bile acid synthesis.

29. The method of claim 27, wherein said bile acid-related phenotype is selected from the group consisting of cholesterol level, Cyp7a synthesis, fecal bile acid excretion, bile acid pool size and bile acid composition.

44. A transgenic mouse cell which comprises at least one endogenous LXRα allele that cannot express LXRα sufficient to provide the capacity to respond to dietary cholesterol.

45. The transgenic cell of claim 44, wherein said cell comprises two endogenous LXRα alleles that cannot express LXRα sufficient to provide the capacity to respond to dietary cholesterol.